Course Specifications

General Information

Course name	General Embryology
Course number	MDCN1129
Faculty	
Department	
Course type	College Needs
Course level	1
Credit hours (theoretical)	1
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - To acquire students with basic knowledge of Embryology and stages of development 1 of the embryo

2 - To enable students to distinguish between different stages of embryological process

3 - To enable students to determine various structures and their changes through 3 development.

4 - To enable students to understand patterns of genetic layers and their contribution in 4 development of organs.

5 - To provide students with knowledge regarding latest developments in vertebrates 5 embryology

Intended Learning Outcomes

Knowledge and Understanding	* advanced knowledge of terminology related to embryology in English
	* knows the stages of human embryogenesis, the structure and function of foetal membranes and placenta
	* knows the stages of development of individual organs
Intellectual Skills	* explains the influence of harmful factors on the development of the embryo and fetus
	* presents the stages of fertilization
Professional Skills	* Recognizes in microscopic images the structures of the umbilical cord
	* Recognizes in microscopic images the structures of placenta
General Skill	* elements characteristic for the stages of the organisms development Recognizes in microscopic images the structures of the
	* able to uses terminology related to embryology in speech and writing

Course Contents

1 - Introduction of Embryology, Terms and concepts. Primordial Germ cells. Gonads early formation.
2 - Gametogenesis. Spermatogenesis and Spermiogenesis
3 - Oogenesis
4 - Hormonal control of Gametogenesis.
5 - Fertlization.
6 - Cleavage. Patterns of cleavage, Cleavage pattern in some vertebrates.
7 - Gastrulation, Formation of the genetic layers. Gastrulation pattern in some vertebrates.
8 - Organogenesis. The generation of Ectodermal, mesodermal and Endodermal Organ rudiments. Examples of some organs developmental process.
9 - Cellular basis of Morphogenesis Morphogenesis of 3 and 10mm frog embryo.
10 - Organs Formed by The Ectoderm Layer: Neural System
11 - Pituitary Gland Sense Organs (The Eye).
12 - Organs Formed by The Mesoderm Layer: Urinary and Genital System
13 - Circular and Vascular System.
14 - Organs Formed by The Endoderm Layer: Digestive System.

Teaching and Learning Methods

1 - Lecture

Students Assessment

Assessment Method	TIME	MARKS
Mid-term examination (MCQs)	1 hour	30
assaements		30
final exam	2 hour	60

Books and References

Essential books	Embryology
Recommended books	High-Yield Embryology
	Netters Atlas of Human Embryology
	Langmans Medical Embryology

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Introduction of Embryology	1	1			
Gametogenesis	1	1	1	1	
Oogenesis.	1	1	2	2	2
Hormonal control of Gametogenesis	1	2	2	2	
Fertlization	1	2	2	2	
Cleavage. Patterns of cleavage, Cleavage pattern in some vertebrates.	1	1	2	2	2
Gastrulation, Formation of the genetic layers. Gastrulation pattern in some vertebrates.	1	1	2	2	2
Organogenesis	1	2	2	2	1
Cellular basis of Morphogenesis Morphogenesis of 3 and 10mm frog embryo.	1	1	1	2	2
Organs Formed by The Ectoderm Layer: Neural System	1	1	1	2	2
Pituitary Gland Sense Organs (The Eye).	1	1	2	1	1
Organs Formed by The Mesoderm Layer: Urinary and Genital System	1	1	1	2	2
Circular and Vascular System	1	1	2	2	2
Organs Formed by The Endoderm Layer: Digestive System.	1	2	2	2	2